

REMARKS

In the above-referenced Office Action, the Specification was objected to as lacking the appropriate serial numbers of cross-referenced applications, the Examiner allowed claims 16-32; rejected claims 1-3, 8, and 11-15 under 35 U.S.C. § 103(a) as being unpatentable over Birgmeir (U.S. Patent No. 4,757,351) in view of Ishigami et al. (U.S. Patent No. 5,933,184); and indicated that claims 4-7, 9, and 10 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to the objection to the Specification, Applicants have amended the Specification to include the corresponding patent numbers. No new matter has been entered. Applicant have also amended the drawings and replacement sheets are attached hereto.

In the above-referenced Office Action, the Examiner rejected claims 1-3, 8, and 11-15 under 35 U.S.C. § 103(a) as being unpatentable over Birgmeir in view of Ishigami et al. Applicant traverses the Examiner's rejection for the below reasons.

Specifically regarding claim 1, the Examiner alleged that Birgmeir discloses a method of computing a linearity profile to compensate for scan line velocity nonlinearity in an electrophotographic device comprising obtaining a plurality of laser beam position measurements, assigning a first insertion time, assigning a second insertion time and performing for a plurality of Pel locations along a laser beam scan path, steps of determining an ideal Pel location based upon a desired correction resolution, computing a first postulated position based upon said first insertion time and select ones of said plurality of measurements, computing a second postulated position based upon said second insertion time and select ones of said plurality of measurements and storing a correction value corresponding to a select one of said first and second postulated positions that is closest to said ideal Pel location. The Examiner admitted that Birgmeir fails to teach first and second insertion timing, but alleged it to be disclosed by Ishigami et al.

Independent claim 1 is directed to a method of computing a linearity profile to compensate for scan line velocity nonlinearity in an electrophotographic device that requires, inter alia, assigning a first insertion time and assigning a second insertion time. The Examiner admitted on page 4 of the Office Action that Birgmeir fails to teach first and second insertion time and alleged that Ishigami et al. teaches first and second insertion time.

Applicants assert that Ishigami et al. fails to disclose or teach assigning first and second insertion time. Ishigami et al. discloses an image clock generating unit that generates a clock pulse with three different types of periods (reference, longer than reference and shorter than reference) for defining a dot length in the scanning direction. However, only one of the generated clock pulses is being assigned to the dot based upon the correction data for that dot and there is no assignment of two different insertion times as in the claimed invention.

To be clear, Ishigami et al. explicitly teaches selecting “any one of three types of clock pulses of period defining the dot-length” and provides examples using a single type of period, with no assignment of two different insertion times as is expressly recited in claim 1 of the instant application. See col. 12, lines 55-62.

Claim 1 also requires, inter alia, performing for a plurality of Pel locations along a laser beam scan path determining an ideal Pel location based upon a desired correction resolution.

Birgmeir does not disclose or suggest determining an ideal Pel location as required by the claimed invention. Birgmeir discloses measuring density of a region (constituted by a large number of points) in each primary color. The measured density is processed such that the color parameters for a region is calculated separately and thereafter compared with a threshold value. However, the threshold (ideal) value as disclosed in Birgmeir can not be considered as the ideal Pel location, because the threshold value is related to the color characteristic and not to the location as the ideal Pel of the claimed invention. See col. 8, lines 44-70.

Additionally, claim 1 requires, inter alia, computing a first postulated position based upon the first insertion time and select ones of the plurality of measurements, computing a second postulated position based upon the second insertion time and select ones of the plurality of measurements and storing a correction value corresponding to a select one of the first and second postulated positions that is closest to the ideal Pel location. As discussed above, the references fails to disclose the first insertion time, the second insertion time and the ideal Pel location therefore, the references also fails to teach or suggest this element of the claimed invention.

In Ishigami et al., the clock pulse (time period) is chosen based upon the correction data, whereas in the claimed invention the correction data is based upon or corresponds to one of the first or second insertion times, which is reverse of the cited reference. See col. 12, lines 20-40.

Therefore, as shown above, Birgmeir fails to disclose or suggest the claimed elements and Ishigami et al. fails to cure the defects therein.

Applicants thus assert that the independent claim 1 is allowable, and dependent claims 2, 3, 8, and 11-15 are also allowable for at least the same reasons. Some of the dependent claims also have other elements or limitations that further distinguish them over the art of record as noted below.

Claim 2 requires, inter alia, a plurality of laser beam position measurements comprises a plurality of test points that measure for each test point, a scan direction position, and a corresponding time value. Applicants assert that Birgmeir fails to teach or disclose this element of the claimed invention.

Rather, Birgmeir discloses the digitization and processing of the imaging signal to enhance the image of the original with respect to edge definition, detail accentuation, color saturation, etc. in a conventional manner. See col. 5, lines 1-10. The Examiner alleged that digitization and processing of the imaging signal as disclosing a plurality of test points that measure for each test point, a scan direction position and a corresponding time value. However, the digitization and processing of the imaging signal nowhere involves any test point or measuring of scan direction position and time value for these points as alleged by the Examiner. The Birgmeir passage recited by the Examiner makes reference to image processing unit 2's capability for storing images obtained during scanning but does not address, inter alia, "test points" and "for each test point, a scan direction position and a corresponding time value" as recited in claim 2.

Further, Birgmeir fails to disclose measuring a scan direction position for each test point and Ishigami et al. does not cure the defects of Birgmeir. Thus, this claim is allowable for this additional reason.

Claim 3 requires, inter alia, that each corresponding time value is expressed as a function of an angle of a rotating polygonal mirror in a corresponding printhead. The Examiner alleged on pages 4-5 of the Office Action that Birgmeir discloses this element of the claimed invention.

Applicants assert that Birgmeir fails to teach or disclose anything about a polygonal mirror of a printhead, as alleged by the Examiner. In a close review of Birgmeir, Applicants did not find any reference to any mirror whatsoever.

While Ishigami et al. presents a rotating polygonal mirror, Ishigami et al. fails to disclose any relationship between each test point time value and an angle of a rotating polygonal mirror as claimed in the present application. See col. 2, lines 10-20 and column 4, line 44. Thus, this claim is allowable for this additional reason.

Applicants assert that in light of the foregoing remarks this application is in condition for allowance and early passage of this case to issue is requested. The Examiner is invited to telephone the undersigned in the event the Examiner would like to discuss the merits of the application or this Response.

Response
Clarke et al.
10/808,130

If there are any other fees not accounted for above, the assignee of present application, Lexmark International, Inc., hereby authorizes the Commissioner to charge any such fees, including any extension of time fees, to the account of Lexmark International, Inc., Deposit Account No. 12-1213.

Respectfully submitted,



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